

REMARKS

The specification has been amended to make an editorial change to place the application in condition for allowance at the time of the next Official Action.

Claims 1-19 were previously pending in the application. Claims 1-4 and 14-19 are canceled, and new claims 20-24 are added. Therefore, claims 5-13 and 20-24 are presented for consideration.

Claims 1-7 are rejected as anticipated by NEBRIGIC et al. 6,370,046. This rejection is respectfully traversed.

Claim 5 is written in 35 USC §112, sixth paragraph means-plus-function format. Accordingly, any applied prior art must teach identical or equivalent structure that performs the exact recited function of switching a storage device between two modes of operation, as disclosed on page 13, line 4, to page 15, line 25 of the present application.

By way of further explanation, an object of the present application is to provide a circuitry for improving the efficiency of a linear regulator without using ferroelectric components.

NEBRIGIC et al. disclose on page 18, line 50, through page 21, line 10, a plurality of algorithms that

are used to calculate a power output stage so that the power output stage may be dynamically controlled to achieve a desired output voltage when the output voltage is sensed as feedback.

NEBRIGIC et al. take into account storage time and also use a plurality of FETs M1 through M4 in conjunction with a time delay to prevent all switches M1 through M4 from being closed at the same time. NEBRIGIC et al. do not disclose or suggest a flip-flop that would cause the gate voltages of the switches to go high or low as needed to open or close the switches as disclosed on page 13, line 4, to page 15, line 25 of the present application. Therefore, NEBRIGIC et al. could not teach or suggest what is recited in claims 5-7 of the present application.

Claims 1-19 are rejected as anticipated by YOUNG 5,889,428. This rejection is respectfully traversed.

As noted above, claims 5-8 are written in 35 USC §112, sixth paragraph means-plus-function format. Accordingly, the cited reference must teach identical or equivalent structure that performs the exact recited function of switching the storage devices between the two modes of operation as disclosed on page 13, line 4, through page 15, line 6 of the present application.

By way of example, page 12, line 15 through page 13, line 3 of the present application disclose a flip-flop comprising a pair of NAND gates and a pair of AND gates. A comparator 8 connected to the flip-flop controls a START/ENABLE line which controls switches S1, S2 to open or close based on the output voltage V_{OUT} sent to the comparator 8.

YOUNG at column 9, line 62 through column 10, line 39, for example, disclose regulating an output voltage VDD using a two input NOR gate 120 that creates an oscillation that in turn switches transistor 78a and 78b on and off. YOUNG does not disclose or suggest a means for switching the storage device between the two modes of operation as disclosed on page 13, line 4 through page 15, line 6 of the present application. Accordingly, reconsideration and withdrawal of the rejection as to claims 5-8 are respectfully requested.

Claim 9 of the present application is amended to include a comparator and a flip-flop in a control circuit. The circuitry improves the efficiency of the linear regulator without using ferroelectric components.

YOUNG at column 4, line 66 through column 5, line 2, and column 6, line 67 through column 7, line 4, disclose that the capacitors of YOUNG are ferroelectric capacitors.

In addition, column 7, lines 18-38 of YOUNG teach a charge pump 62 having a circuitry that includes a two input NOR gate 87a, 87b, coupled to inverter 89a, 89b. Inverter 89a drives the gate of P-channel transistor 78a and inverter 89b drives the gate of P-channel transistor 78b to open and close the switches in order to maintain the desired output voltage.

Accordingly, YOUNG neither teaches a control circuit having a flip-flop as recited in claim 9 of the present application and as disclosed on page 12, line 15 through page 13, line 3 of the present application, nor a circuit for improving the efficiency of a linear regulator without using ferroelectric components. In fact, since YOUNG teaches that ferroelectric capacitors are preferred, YOUNG teaches away from a circuit that does not use ferroelectric components.

Claims 10-13 depend from claim 9 and further define the invention and are also believed patentable over the cited prior art. In addition, new claims 20-24 depend from claim 9 and further define the invention and are also believed patentable over the cited art. The new claims provide for the specific embodiments of the flip-flop as disclosed on page 12, line 15, through page 13, line 3 of the present application.

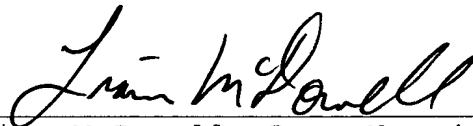
Accordingly, it is believed that the new claims avoid the rejection under §102 and are allowable over the art of record.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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